5-26-1995

1st Annual Governors State University Student Research Conference Proceedings

Shailendra Kumar Ph.D., Editor
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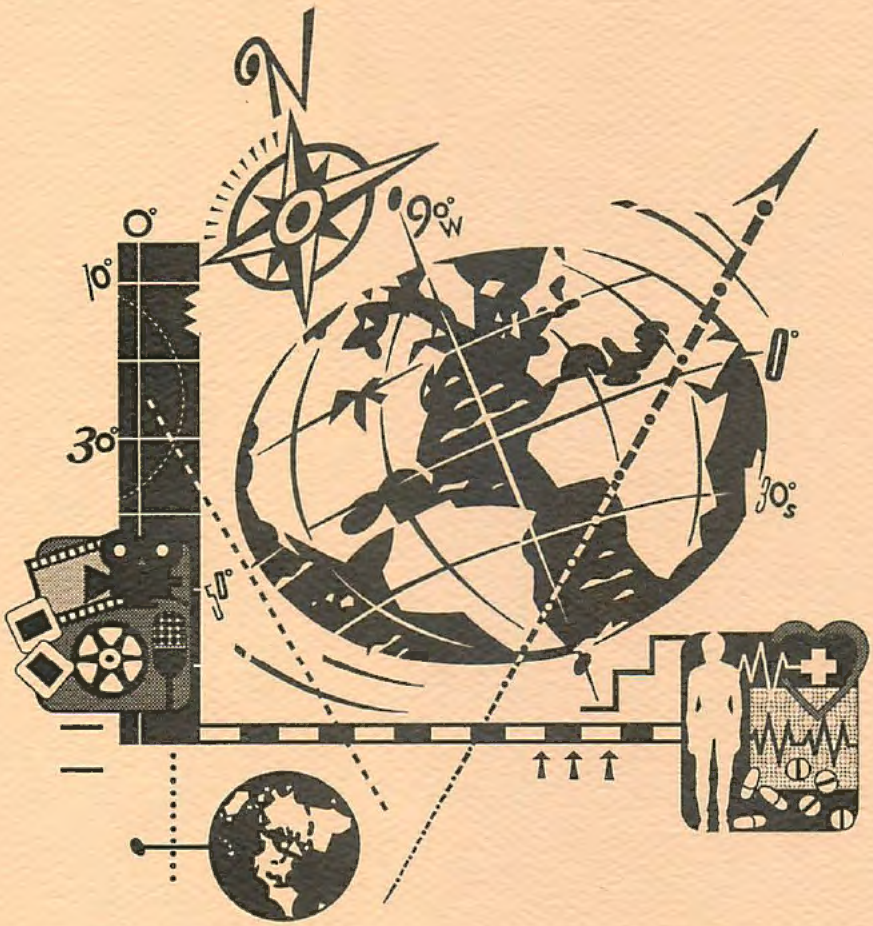
[redacted]

1st Annual GSU

Student Research Conference

Friday, May 26, 1995



Governors State University
BOARD OF GOVERNORS UNIVERSITIES

Governors State University
University Park, IL 60466

1st Annual
GSU Student Research Conference

May 26, 1995

Governors State University

College of Arts and Sciences

College of Business and Public Administration

College of Education

College of Health Profession

1st Annual GSU
Student Research Conference

Friday, May 26, 1995

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Governors State University
Board of Governors Universities

The President's Office
708/534-4130 Fax 708/534-8399
University Park, IL 60466

PRESIDENT'S MESSAGE

Governors State University takes pride and pleasure in instituting the 1st Annual GSU Student Research Conference on Friday, May 26, 1995.

Research Conferences are valuable vehicles for the exchange of ideas and information and for the renewing excitement about being involved in research. This conference in particular provides an opportunity to students to come together and present their research work to an audience of faculty and peers. This event is a tribute to our students searching for excellence.

The papers to be presented will range in topics, including the sciences, humanities, education, and business administration. However, the commonality among these papers is quest for exploration and understanding phenomena in the world around us. I believe that this experience will undoubtedly contribute to personal and professional growth for all who participate in this conference.

Governors State University is justly proud of its faculty and the very special students who choose to study and learn here. May this conference not only be a success but may it also be a showcase for excellence.

Sincerely,

[redacted]

Paula Wolff
President

A MESSAGE FROM THE CONFERENCE STEERING COMMITTEE

The steering committee is excited to announce the 1st Annual GSU Student Research Conference to be held on May26, 1995. When planning this conference, the committee had several objectives:

1. To provide students an opportunity to present their research work before an audience of their peers, and to use the comments they receive to improve presentations made at professional conferences.

2. To provide a forum to highlight research accomplishments at GSU, and honor students presenting their research work.

3. To generate enthusiasm among student body in general, and encourage them to pursue research and other scholarly activities.

4. To enhance communications in the area of research among the four colleges at GSU. The interactions may also lead to collaborative work among students and faculty of different colleges.

5. To enhance the image of GSU in the area of teaching, as research is considered integral part of teaching at the university level. In the long run larger number of students attracted toward research would enroll at GSU to pursue higher education.

The committee hopes that this event will lead to a continuous series of student research conferences. Enjoy the conference and share the excitement of fruits of research.

The Student Research Conference steering Committee is happy to announce that the key note speaker for the lunch will be:

Dr. J.D. Trout

Associate Professor of Philosophy and Adjunct, Parmly Hearing Institute
Loyola University of Chicago

who will present a talk titled

"INTEGRATIVE KNOWLEDGE AND NATURALISTIC RESEARCH IN PHILOSOPHY"

Dr. J.D. Trout received his M.A. and Ph.D. Philosophy and Psychology in 1986 and 1988, respectively from Cornell University. He was an Andrew W. Mellon Post-Doctoral Fellow and Lecturer at Bryn Mawr College in 1988-89. He joined the faculty at Loyola University of Chicago in 1992 after having posts of Assistant Professor of Philosophy at Stevens Institute of Technology (1989-91) and at Virginia Polytechnic Institute (1991-92). At Loyola University Dr. Trout is an Associate Professor of philosophy and an Adjunct with Parmly Hearing Institute.

From early on Dr. Trout has addressed core issues in the philosophy of mind and related issues in the philosophy of science with empirical studies in psychology. He has combined philosophy and psychology to understand the organization of the speech system and visual and auditory influences on speech perception. He uses methods in psychology to extract metaphysical and epistemological morals in the philosophy of science.

Dr. Trout is currently examining the role of distinctive acoustic factor-pitch declination-in word segment at the Parmly Hearing Institute. With the help of statistical methods used in psychological data analysis he has analyzed the ways in which knowledge is acquired about unobservable phenomena. Dr. Trout, along with two of his colleagues, has captured these developments in a comprehensive anthology, *The Philosophy of Science*. Dr. Trout is author of several articles in journals and chapters in books. His naturalistic approach to philosophical research is amplified in a recent book manuscript, *Measuring the International World: Realism, Naturalism, and Quantitative Methods in Behavioral Sciences.*

INTEGRATIVE KNOWLEDGE AND NATURALISTIC RESEARCH IN PHILOSOPHY

J.D. Trout
Philosophy Department and the Family Learning Institute
Loyola University of Chicago

Abstract

The vast majority of philosophers who have ever lived, like the vast majority of scientists, have lived in the 20th Century. Although one might have thought the sheer number of researchers bearing a modern outlook might swamp the influence of tradition, contemporary philosophy still displays the intellectual remnants of traditional philosophy. Before the turn of the century, philosophy was deemed "the Queen of the Sciences", with the subject matter of this "First Philosophy" thought to be somehow more basic than that of other areas of inquiry. Accordingly, the educated classes supposed that they had to first grapple with and resolve distinctly philosophical questions before addressing issues in their own special disciplines. The history of philosophy is therefore typified by, if not exclusively concerned with, very abstract and general questions about knowledge and reality. Is space relative or absolute? What is knowledge? What is the Good, and how shall we achieve it? All of these questions were addressed by the philosopher's tools of conceptual analysis which, quite often, did not include knowledge of the relevant areas of science. So we find this tradition of conceptual analysis littered with either (a) unsound but substantial arguments that space is globally Euclidean, that the mind is made of an immaterial substance that cannot be studied scientifically, and that all causation is mechanistic, or (b) sound but uninformative arguments that the law of contradiction cannot be consistently denied, and that it is impossible for any two objects to occupy the same position in space at the same time. The demand for integrative knowledge takes us away from tradition First Philosophy, and toward a naturalistic picture of philosophy (and the humanities generally) as continuous with the empirical sciences. There were also many philosophers notably familiar with scientific research, among the, Russell, Carnap and Reichenbach, Whitehead, Braithwaite and Ramsey. At that time, however, if a person with a science degree turned to philosophy, it was probably the result of a wrenching epiphany or the leisurely desire to satisfy long-standing interests. And if a credentialed philosopher had turned an eye toward scientific training, it was usually to satisfy what they regarded as an independent interest, or to ensure financial stability should they someday need to get a real job; it was not because empirical science was thought to be relevant to the formulation of philosophical principles.

There is no question that specialization plays an important role in research; it allows an individual to advance as quickly as possible to the pioneering fringes of research. But without sacrificing specialization, we have entered a new intellectual epoch, one of distinctly interdisciplinary study. Contemporary research reveals a marked trend toward the integration of knowledge across disciplines. In order to illustrate this point, my presentation will survey models of knowledge integration, in psychology and literature, evolutionary theory and physics, and acoustics and psycholinguistics, to name a few examples. The integration and cross-disciplinary character of contemporary research results not from the lofty intellectual goal of understanding the causes of everything, but from the mundane demands of research. As human arbiters of the fields of study, we may set the initial boundaries of a discipline, by separating the English department the Literary Criticism department, bio-engineering from genetics, and

neuroscience and psychology, but (unless we are studying the sociology of departmental and university politics), the world is blind to such disciplinary distinctions. If we are to do good research, we must have integrative knowledge of affiliated disciplines, because causes--the routine objects of intellectual inquiry--are, we might say, disciplinarily promiscuous. So whatever our motivations for carving up the disciplines in the way we do, in the end the world gets the last word, as our human theoretical constructions, our theories, get successively accommodated to the causal structure of the world. This conclusion no doubt has substantial philosophical consequences, but it is not arrived at by traditional philosophical recourse to conceptual analysis or to First Philosophy. It is an empirical claim, to be judged by the same empirical standards as the empirical evidence that supports it.

1st Annual GSU
Student Research Conference

Friday, May 26, 1995

PROGRAM SUMMARY

Engbretson Hall:	
8:30 - 9:00 A.M.	Conference Registration
9:00 - 9:20 A.M.	Welcome and Introduction
9:20 - 10:20 A.M.	Podium Presentations (3)
10:20 - 10:40 A.M.	Refreshment Break
10:40 - 12:00 Noon	Podium Presentations (4)
Hall of Honors:	
12:00 Noon - 12:45 P.M.	Lunch
12:45 P.M. - 1:30 P.M.	Keynote Speaker, Dr. J.D. Trout
1:30 P.M. - 2:00 P.M.	Mixer and Poster Presentations
Engbretson Hall:	
2:00 P.M. - 3:20 P.M.	Podium Presentations (4)
3:20P.M. - 3:40 P.M.	Refreshment Break
3:40 P.M. - 5:00 P.M.	Podium Presentations (4)
5:00 P.M. - 5:05 P.M.	Concluding Remarks

1st Annual GSU
Student Research Conference

Friday, May 26, 1995

CONFERENCE PROGRAM

Conference Registration

8:30 A.M. — Hall of Governors

Program Commencement — Engbretson Hall

9:00 A.M. — ***Welcome and Introduction:***
Dr. Shelly Kumar
Division of Science
College of Arts and Sciences

Greetings:
Dr. Paula Wolff
President

Podium Presentations — Engbretson Hall

Session I Moderator:
Dr. Akkanad Isaac
Division of Management, Marketing, and Public Administration
College of Business and Public Administration

9:20 A.M. — "COST COMPARISON ANALYSIS: IN-PATIENT VS. HOME HEATHCARE", Mary Lou Budzinski, Health Administration, CHP.

9:40 A.M. — "THE SYLLOGISM AND ITS APPLICATIONS", Rhonda Hart, English, CAS.

10:00 A.M. — "SIMULATED QUALITATIVE ORGANIC ANALYSIS SOFTWARE", Dana R. Shafer, Shailendra Kumar, Analytical Chemistry, CAS.

10:20 A.M. — ***Refreshment Break***

Session II Moderator:
Dr. Larry Levinson
Division of Liberal Arts
College of Business and Public Administration

10:40 A.M. — "U.S. WOMEN: EDUCATION, WORK, AND OPTIONS TO ENCOURAGE THEM", Janet Wohlgemuth, Business, CBPA.

11:00 A.M. "INTELLIGENCE TESTS AND ACHIEVEMENT TESTS: A PROBLEM WITH INTERPRETATION", Zoa Jayne Dipert, Psychology, COE.

11:20 A.M. "CONFERENCE ROOM SCHEDULER", Charles R. Lysholm, Roger Sutton, John Lukancic, and Soon-Ok Park, Computer Science, CAS.

11:40 P.M. "BROADCAST PROPAGANDA 1941-1963", Jeff Dinelli, Ann Juttelstad, Kelly Place, and Yolanda Santoyo Smith, Media Communications, CAS.

Conference Lunch Hall of Honors

12:00 P.M. ***Lunch***

12:45 P.M. ***Greetings and Introduction of Speaker:***
Dr. Wayne Hamilton
Provost

Keynote Speaker

Dr. J.D. Trout

Associate Professor of Philosophy
Loyola University of Chicago

Speaking on

"INTEGRATIVE KNOWLEDGE AND NATURALISTIC RESEARCH IN PHILOSOPHY"

Mixer and Poster Presentations Hall of Honors

1:30 P.M. "POST-RELEASE STUDY OF AMERICAN KESTRELS (FALCO SPARVERIUS)", Gwyn Jones Boughner, Environmental Biology, CAS.

"MENTAL DISORDERS DUE TO ABNORMAL DEVELOPMENT IN THE PHYSIOLOGY AND FUNCTION OF THE BRAIN: IMPLICATIONS FOR EDUCATION", Z. Jayne Dipert, Psychology, COE.

"OBJECT ORIENTED MEDELING & DESIGN: HOME MANAGEMENT", Paul Silic, Scott Fox, and Soon-Ok Park, Computer Science, CAS.

Podium Presentations Engbretson Hall

Session III Moderator:
Dr. Carolyn Fraser
Division of Nursing and Health Sciences
College of Business and Public Administration

2:00 P.M. "AN INTERDISCIPLINARY INVESTIGATION OF PICTOGRAPHIC IMAGES IN QUETICO PROVINICIAL PARK, ONTARIO, CANADA", Theresa A. Lesnak, Art, CAS.

2:20 P.M. "DATASTREAM CIS: A SOLID PLATFORM OF APPLICATION DESIGN METHODOLOGY", Basem Ibrahim-Ali Amin, Computer Science, CAS.

2:40 P.M. "CONSTRUCTION AND EXPERIMENTATION WITH PHOSPHATE ION-SELECTIVE ELECTRODES", James Simpson and Greg Moehring, Analytical Chemistry, CAS.

3:00 P.M. "AN EVALUATION OF THE TENANT RESOURCES COORDINATOR APPROACH TO SUPPORTIVE HOUSING", Diann Crawford, Public Administration, CBPA.

3:20 P.M. ***Refreshment Break***

Session IV Moderator:
Dr. Linda Buyer
Division of Psychology and Counseling
College of Education

3:40 P.M. "PLATO'S RHETORICAL TRUTH: REVISING THE GORGIAS AND THE PHAEDRUS", Justin Brand, English, CAS.

4:00 P.M. "IMAGE DATA COMPRESSION", Shaogang Bian and Xiangyun Wang, Computer Science, CAS.

4:20 P.M. "ALTERNATE PERCEPTIONS", George Kassal, Art, CAS.

4:40 P.M. "A SECOND LOOK AT CROSS-CULTURAL ATTITUDES TOWARD SPEECH DISORDERS", Ann M. LaBarge, Speech Pathology, CHP.

5:00P.M. ***Concluding Remarks***
Dr. Shelly Kumar

1st Annual GSU
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ABSTRACTS OF PAPERS

Governors State University
University Park , Illinois

PODIUM PRESENTATIONS

COST COMPARISON ANALYSIS INPATIENT HOSPITAL VS HOME HEALTHCARE

Mary Lou Budzinski, B.H.A.

Health Administration, Governors State University

ABSTRACT

This study was conducted at Melmedica Children's Healthcare, Inc. in Country Club Hills, IL, a nurse-owned and operated pediatric home health care agency.

The intent of this paper was to document the cost savings that are realized with the utilization of home health care services for pediatric patients.

This study involved pediatric patients who are receiving private duty nursing from Melmedica's Country Club Hills location. The patients were selected on the basis of the following criteria:

- have been Melmedica home care patients for at least one year
- chronicity of the condition - both short term and long term
- frequency of private duty nursing
- have been hospitalized intermittently during their course of services

The selected patients' parents were then contacted by the Melmedica Children's Healthcare, Inc. nursing supervisor who discussed the study with them and determined whether or not they would be willing or able to participate in the study. For those patients participating in the study, specific information was collected from the parents which included:

- inpatient hospital bills
- home health care bills (nursing services, occupational, physical, and speech therapy)
- medical supply and equipment bills
- Rx bills
- the insurance company's explanation of benefits for these specific charges

In comparing the average cost per day of home health care to the average cost per day for inpatient hospitalization charges, it is very apparent that home health care costs 10%-40% less than inpatient hospitalization charges. Therefore, inpatient hospital charges cost between 60%-90% more than home health care.

This study certainly supports the fact that home health care for the technology-dependent or chronically ill pediatric patient is a cost effective alternative to prolonged hospitalizations. Home health care affords these children the benefit of receiving quality medical care in the comfort of their own home environment.

THE SYLLOGISM AND ITS APPLICATIONS

Rhonda Hart

English, College of Arts and Sciences

ABSTRACT

This paper discusses the topic of syllogism in Aristotelian philosophy, the varieties of syllogism, and some f the practical applications of the syllogism to everyday situations. Included in this discussion are examinations of validity and soundness of inference as well as methods of testing validity and soundness. In discussing the varieties of syllogism, only the most commonly used types are included, as this paper is not meant to be an exhaustive treatment of the topic; it is intended to acquaint the reader with the basics of the subject and to provide the reader with an introduction to syllogistic thought. What are considered to be the most commonly used types of syllogism will be based on research for this paper: those types that appeared in many or most sources have been selected for presentation.

Discussion of the development of the syllogism is limited to Aristotelian philosophy because Aristotle has had the most influence of any philosopher, before or since his time, on the subject. Most Scholars and philosophers who followed Aristotle based their own work on the subject on Aristotle's original thinking, to the degree that it could be said that nothing new was added to the concept until this century.

SIMULATED QUALITATIVE ORGANIC ANALYSIS SOFTWARE

Dana R. Shafer, Shailendra Kumar

Analytical Chemistry, CAS

ABSTRACT

A software will be presented which simulates experiments used in teaching qualitative organic analysis laboratory course. The software will be used by students as a supplement to the experiments conducted in the laboratory. The software offers a scheme by which unknown organic compounds can be identified by performing simulated experiments similar to the ones done in a qualitative organic laboratory. The experiments include melting point and boiling point determinations, solubility tests, elemental analysis, wet functional group tests, derivative preparations and their melting point determinations, and infrared and nuclear magnetic resonance spectroscopy.

Students perform a particular test by choosing the chemicals from a list of chemicals. The results of experiments are observed by pictures similar to the actual tests. As students analyze the experimental results, the interpretations are automatically transferred to a formatted report form. The grading is automatically done when experiments are completed. The software allows the instructor to change experimental parameters for the unknown compounds. This privilege is not provided to the students.

The features of the software will be explained by analyzing an unknown organic compound.

US WOMEN: EDUCATION, WORK AND OPTIONS TO ENCOURAGE THEM

Janet Wohlgemuth

College of Business and Public Administration, Governors State University

ABSTRACT

Projections for the 1990s show that the majority population in post-secondary institutions will be part-time adults. Women's admittance and attendance of post-secondary educational institutions in the United States has been cyclical in nature, based on the events that affect men in those same institutions, such as war (or lack thereof) or other social pressures. During the past few years, many women have left both the work place and university classrooms. Some problems occur because of the residential program format and the social conditions that surround them. Other problems concern scheduling programs so that women's special needs are considered. A balance of work, family and school presents other problems to women. Currently, women are facing new opportunities and pressures; political, economic and social.

Different steps can be taken to ease this burden. Options to maintain and/or improve the retention rate include education through technology in the classroom. Expansion of non-residential programs must be made with consideration of women's family obligations. Financial aid is available for full and part-time students. But for students who are only able to take a course at a time, there is little help available. So universal access to financial aid for less than half-time students must be made available. Mentoring programs for credit would help students achieve their education, while familiarizing them with the true nature of the field. Incentives through present and future salary gains can be mandated, but voluntary measures are more likely to persuade business to encourage women that remaining in the workplace is worthwhile.

INTELLIGENCE TESTS AND ACHIEVEMENT TESTS: A PROBLEM WITH INTERPRETATION

Zoa Jayne Dipert

Psychology, College of Education

ABSTRACT

WISC -III and WIAT tests were administered to 58 elementary school students. The Scoring Assistant for the Wechsler Scales, Systat and Statpak were used for evaluation and the results compared to statistical analysis of SRA scores compiled in 1993. There were no significant differences demonstrated in the mean values of the subtest scores as presented in the tables. Analyses of results were tabulated to illustrate problems encountered in interpretation of standardized tests: ipsative evaluations are essential for meaningful application in instruction and curriculum, failure to identify and eliminate outliers from accepted statistical evaluations unfairly raises or lowers group standards, reliability is necessary but not sufficient to establish validity, "popular" test instruments are accepted at face value and inadequate time is spent in intensive analysis of results. The relationships within each of the three testing instruments were significantly correlated, but internal consistency does not warrant assumption of validity. Recommendations were made to overcome the problems encountered in the study. Ipsative evaluation of standardized test results appeared to be the quickest and easiest way to avoid major misinterpretations.

CONFERENCE ROOM SCHEDULER

Charles R. Lysholm, Roger Sutton, John Lukancic, and Soon-Ok Park

Computer Science
College of Arts and Sciences

ABSTRACT

This paper presents the object-oriented (OO) modeling techniques used to develop a system for the Conference Room Scheduler. This system facilitates reservations for rooms located at various sites and coordinates room reservations with support services and equipment reservations. The OO models provide more closely corresponds to the real world and is consequently more resilient with respect to change.

The Conference Room Scheduler system allows a user to reserve a room for a specific date, or a range of dates, and time. There are two ways that a room can be reserved. The user can request a specific room, which is reserved only if it is available for the requested date and time. Otherwise, a room can be selected from a list of available rooms that meet the user's requirements. Once a room is reserved, the user can reserve support services to be provided in the room at the specified date and time. These services include support equipment, support personnel, and catering. The system allows existing room and service reservations to be modified or deleted.

OO modeling techniques are used in the analysis phase of development to define a static structure of objects. In this phase we identify object classes, relationships between the object classes, and their attributes. All the information about the objects is stored in a repository so as new objects are developed they may be easily integrated into the existing system. In the design phase, OO modeling techniques are used to define the behavior of the object. An event diagram is created that shows the operations that are performed and the events that trigger other operations. Rules that govern how the operations and events behave are stated explicitly so that they can be validated with the end users and quickly changed to meet new requirements.

By adapting generalization and inheritance taxonomy, the object classes, relationships, events, and operations that we generated in this project can be reused to other enterprisewide applications.

ALTERNATE PERCEPTIONS

George Kassal

Electronic Imaging, College of Arts and Science

ABSTRACT

My work is about alternate perceptions of the landscape. I believe that each place has qualities which are often hidden to the casual observer. In order to see or experience this aspect of nature, it is necessary to cast off the cloak of conventional reality and enter an altered state of awareness. The purpose of my work is to set the stage for this shift of awareness in the viewer by presenting my interpretation of this viewpoint.

I use landscape photographs that I have electronically altered by adding sculptural and architectural elements. The resulting image presents a series of environments based on common reality but providing metaphorical connections to another reality.

The background for my work combines a love for the land with interests in Native American Theology, Eastern Mysticism and theoretical physics. This unusual combination results in a personal belief system combining a spiritual attachment to the land, a recognition of multiple levels of consciousness, and an awareness that what is perceived depends to a great extent on our expectations.

I believe that the ability to step back and consider objects, opinions and events from new and different perspectives is critical to the evolution of human consciousness. My work concentrates on one aspect of alternate perspectives, and, it implies that all conventional concepts of reality may be incomplete or deceiving.

AN INTERDISCIPLINARY INVESTIGATION OF PICTOGRAPHIC IMAGES IN QUETICO PROVINCIAL PARK, ONTARIO, CANADA

Theresa A. Lesnak
Art, CAS

Abstract

This study is an interdisciplinary investigation into the origin, present condition, and possible meanings of the pictograph images in Quetico Provincial Park in Ontario, Canada, as those images relate to early Ojibwa mythology and world view.

The Quetico sites offer an opportunity to study, first hand, the symbolism of a culture that until recently, kept no written record of its history. The park covers approximately eighteen hundred square miles, much of which is located in areas that are not easily accessible. In 1973 the Canadian government classified Quetico as a "Wilderness Park", adding further assurance that the park will remain protected. The natural inaccessibility, combined with its protected status from the Canadian government helps keep the park in a condition that remains much the same today as it was when the first humans inhabited the area. As such, the pictographs also remain in remarkably good condition.

There are approximately thirty-six record pictograph sites within the park boundaries. The images found at those sites include many recognizable animals and beings that may be directly associated to characters found in Ojibwa mythology. Several of those images appear repeatedly at the various sites. Moose, for example are found at almost every site, as are canoes - usually carrying from two to four passengers.

Upon first inspection, the frequent appearance of moose and canoe imagery among the pictograph sites might indicate hunting magic as the primary purpose for the paintings. Many early researchers based their entire thesis on that precept. Among the Ojibwa, that is rarely the situation.

To understand the pictograph images, it is necessary to analyze the world view of the Ojibwa through their oral traditions. Characters of their mythologies were ever present facts of life in the waking world, and dreams provided a channel that allowed direct communication with the various entities. By studying the pictograph imagery and comparing it to mythological characters found in Ojibwa traditions, a window is opened to what might otherwise remain an inaccessible part f the past.

DATASTREAM CIS: A SOLID PLATFORM OF APPLICATION DESIGN METHODOLOGY

Basem Ibrahim-Ali Amin

Computer Science, College of Arts & Sciences

ABSTRACT

In the complex arena of application development, the optimum balance between program functionality and design fluidity becomes an intrinsic component in the transformation of Developer creativity into executable product. While the Developer must harness the proper tools to maintain structural stability and compliance with requirements, he also must rest his philosophy of approach upon a solid design foundation. The perpetual integration of design and coding allows the Developer's vision to extend forth into a robust, versatile product of computer technology.

DataStream CIS emerges as the application representative of modern software engineering techniques, coupled with the proven authority of traditional design philosophy. From Project initiation, the requirements of the customer are carefully analyzed to insure proper focus and direction of the development process. DataStream CIS begins as a student database system for Prairie State College's Computer Information Systems Facilities. Prairie State College, a community college in the State of Illinois, is required to maintain such records for state funding purposes. Requirements are: data management according to current record keeping procedures, a user-integrated system, enhanced application efficiency, and data report production. Application design utilizes Object-Oriented Analysis and Design to provide: a dedicated application, simplified menu systems and online user assistance, "Hot-Key" one-touch access to program features, and powerful I/O features that enable report formatting as well as external media storage of record items.

Application coding represents strength in modularity resident in the Pascal high-level language. Each function of the main program rests within an individual unit. Emphasis on module cohesion and internal documentation allows for simplicity in semantic error correction (debugging) and maintainability. Ultimately, DataStream CIS unifies design and production to further enhance the discipline of software engineering.

CONSTRUCTION AND EXPERIMENTATION WITH PHOSPHATE ION-SELECTIVE ELECTRODES

James Simpson and Greg Moehring

Analytical Chemistry, CAS

ABSTRACT

An ion-selective electrode for the quantitative determination of phosphate was prepared. The electrode works by producing an electrical potential that is proportional to the amount of phosphate present in a solution. By first measuring the potential produced for several known amounts of phosphate and then measuring the potential of solutions which contain an unknown amount of phosphate, the unknown amounts of phsophate can be quantified.

Initially, attempts were made to reproduce a phosphate ion-selective electrode that was reported in the chemical literature. These attempts were unsuccessful. The steps taken to prepare a successful ion-selective electrode for phosphate are presented. These steps include changing the amounts resin and carrier agents present in the ion-selective electrode.

AN EVALUATION OF THE TENANT RESOURCE COORDINATOR APPROACH TO SUPPORTIVE HOUSING

Name of Author: Diann Crawford

College of Business and Public Administration

ABSTRACT

Supportive housing is a term used by housing advocates to describe a form of housing which has social support programs on site to assist residents. The Department of Housing and Urban Development (HUD) regulations have encouraged developers and project management firms in the affordable housing market to initiate supportive services in residences for seniors, the mentally ill, and other special needs populations. HUD has also experimented with the use of supportive services with families with low incomes receiving Section 8 subsidies.

For-profit and not-for-profit managers of low income housing are beginning to view supportive housing as highly credible method to prevent resident problems and declines in the physical structure. For example, supervised, structured after school and weekend recreation programs provide positive ways to engage youth thereby enabling parents to work while discouraging youth intimidation and the proliferation of gang activity.

Policy makers are being forced to tackle the mushrooming cost of providing for those in poverty at the same time they are experiencing budgetary strain. At every government level, administrators are examining strategies which will provide the greatest level of service at the lowest cost, and supportive housing is one of these strategies.

This paper will examine one specific approach to supportive housing in low income housing, that of the **Tenant Resource Coordinator.** Two programs, matched in the number of resident units, demographics of resident population, and support services staffing, will be compared to determine the scope of services provided, cost, and effectiveness.

PLATO'S RHETORICAL TRUTH: REVISITING THE GORGIAS AND THE PHAEDRUS

Justin Brand

English, College of Arts and Sciences

ABSTRACT

While searching for a research topic for ENG 570, Rhetorical Theory and Practice, I became fascinated by Plato's passion for truth and truth's relation to rhetoric, a fascination which led me to study Plato's two main works on rhetoric, the Gorgias and the Phaedrus.

My research revealed that, contrary to some generally held impressions, Plato really did not "hate" rhetoric; he just believed that no one can practice rhetoric ideally. Rhetoric is language, and--since truth is an essence and language is limited to using analogies in describing truth--language can never completely define the truth. Thus, because of language's inherent inability to define the truth, there is no method to discover the truth. Rhetoric, Plato's own dialectic, and writing all fail.

Image Data Compression

Shaogang Bian and Xiangyun Wang

Computer Science, College of Arts and Science

Traditional image compression techniques are based on removing the statistical redundancy present in real world images. To achieve high data compression ratios, some non-redundant information must be removed. By using image decomposition, compression can be made according to the importance of each individual coefficient.

The wavelet transforms decompose data into both frequency and spatial space. For 2-D data, the decomposition is along the vertical, horizontal and diagonal orientations and maintains constant the number of pixels required to desirable the image. After the wavelet transforms, an image has been shown at different resolutions, which consists of high frequency and low frequency sub-bands. Then data compression and some other processing can be made.

For our compression algorithm, at first we take low-pass sub-band fully. Secondly, we decompose each high-pass sub-band using wavelet transforms, respectively, then we obtain three more relative lower frequency portions. Finally we combine all four low frequency sub-bands, which are visually important details of the image. The compress ratio could be very small, which depends on the resolution levels and the expected quality of an image.

In this presentation, we will introduce the wavelet transforms in general, and discuss implementation of the decomposition of an image. Then we present an image compression algorithm considering to edge preserving strongly . Finally, a few images are experimented and relative high compression ratios are obtained to reconstructed images in acceptable quality.

BROADCAST PROPAGANDA 1941-1963

Jeff Dinelli
Ann Juttelstad
Kelly Place
Yolanda Santoyo Smith
Media Communications, CAS

Abstract

The purpose of this thesis project is to conduct a content analysis of social artifacts from World War II and the Cold War; radio and television broadcasts heard and seen during the period from 1941 to 1960, sometimes thought to be propaganda. Specifically we will analyze the radio programs Words at War, Freedom USA, This Is Your War, various other radio programs. We will also analyze the Fred Ziv radio production I Was a Communist for The FBI, and his television show I Led Three Lives, along with other pertinent television shows of the Cold War period, including Space Patrol Captain Video and The Invaders.

The project will include the documentation of cast members as well as producers and advertisers, when available. Also, we will attempt to provide character analysis, to identify themes and target audiences and to understand the moral and political tone of the American public during this time.

The materials used have been provided by Professor Eli Segal from his personal collection of video tapes, taken from films and kinescopes of the time, and from cassette and reel to reel tapes taken from discs. Some of this material has not been seen or heard since the original airing. The importance of this project is to be able to document the content of these programs so that their significance is not lost or forgotten.

A SECOND LOOK AT CROSS-CULTURAL ATTITUDES TOWARD SPEECH DISORDERS

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ABSTRACT

American Speech and Hearing Association projects that by the "year 2000, one out of every three persons in the United States will be a person of color". Thus, it can be expected that the number of minority persons that speech-language pathologists serve will increase over the next five years. To date, limited research has been conducted in the area of cultural attitudes toward speech-language disorders. Believing that this topic merits further investigation, research was conducted applying Bebout and Arthur's (1992) study of "Cross -cultural attitudes toward speech disorders" on 23 foreign born and 10 U. S. born high school students. The focus of this study was to identify relationships and variances of data in the attempt to inform readers of misconceptions and biases fabricated by Bebout and Arthur. A twelve statement questionnaire derived from Bebout and Arthur was administered to four language origin populations (Spanish, South Asian, Polish and Eastern Asian) focusing on four speech disorders (stuttering, hearing loss, cleft palate and misarticualtions). Results of the research were in conjunction with Bebout and Arthur, concluding that attitudes differ among foreign born and U.S. born individuals and that varying degrees of attitudes differ among speech disorders throughout the four major language origin populations. This qualitative analysis indicated that the most frequently occurring difference was among the two questions; "People who _____ could speak better if they tried" and "People who _____ are being punished by God/fate".

POSTER PRESENTATIONS

POST-RELEASE STUDY OF AMERICAN KESTRELS *(FALCO SPARVERIUS)*

Gwyn Jones Boughner

Environmental Biology, College of Arts and Sciences

ABSTRACT

As our country becomes more urbanized, wildlife is being forced onto smaller and smaller open areas. Forced contact between humans and animals is increasing, often to the detriment of the animals. As the public becomes more aware of this problem, there is a growing demand for humane treatment and care of the individuals animals affected. The field of wildlife rehabilitation is growing rapidly as a response to this concern.

In particular, there is a growing interest in rehabilitating and captive-rearing birds of prey that have been injured or orphaned often as a direct result of human contact. Little is known of the ultimate fate of these birds after release. In this two-year study, four wild-reared and fifteen captive-reared young kestrels were studied using radio-telemetry. Results suggest that rehabilitated and captive-reared kestrels can be successfully returned to the wild.

MENTAL DISORDERS DUE TO ABNORMAL DEVELOPMENT IN THE PHYSIOLOGY AND FUNCTION OF THE BRAIN: IMPLICATIONS FOR EDUCATION

Z. Jayne Dipert

Psychology, College of Education

ABSTRACT

Two papers were presented as independent study in advanced neuropsychology, for Fall and Winter Trimesters 1994-95. The initial study was primarily concerned with current research in the physical structure of the brain as related to and affecting the mental disorders most frequently encountered in public education: dyslexia, attention deficit disorder (with and without hyperactivity), and childhood autism spectrum. Dysfunctional areas of the brain specifically indicated for each disorder are both distinct and interrelated. Involvement of both right and left hemispheres is probable, with emphasis on left hemisphere development. Genetic and environmental conditions are currently being investigated. The works of Luria (1973), Galaburda (1978), Chomsky (1984), Geschwind (1985), Hynd (1990), and Pinker (1994) were reviewed, among others.

The implications for education, through and including institutions of higher education, were discussed. The current focus on inclusion in the public schools makes it imperative that improvements be made in the quality and quantity of specific neuropsychological research and intervention techniques being taught to candidates for public school classroom teaching, as well as special education personnel and school psychologists. Improvements must be instituted in the quality of instruction and the content of required college courses in order to facilitate the preparation of expert educators.

OBJECT ORIENTED MODELING & DESIGN: HOME MANAGEMENT

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Computer Science
College of Arts and Sciences

ABSTRACT

This project presents an object oriented analysis of home management. Our goal is to utilize the Object Oriented (OO) Modeling and Design process to develop the project that uses the natural relationship between objects and their operations. We identify object types, state of objects, events which trigger other operations, the operations that cause those objects to behave in certain ways and the rules that govern the operations. All the information about the objects are stored in a repository so as new objects are developed and easily integrated into the existing system.

Through the analysis of the uses of inheritance and design hierarchies, our project includes complex object classes, such as finances, scheduling, home maintenance, and purchasing of provisions. Each complex object class is further defined into detailed object classes. The Finances object includes recording income, balancing a checkbook, keeping track of expenditures, distributing money, assisting in income tax returns and general record kepping. Provisions object includes storing information on meals often eaten, recipes, menu planning and generating shopping lists. Maintenance object includes the upkeep of the physical plant and the family vehicles. Schedule object includes responsibilities that have to be accomplished on a varying time basis such as daily, weekly, monthly, or yearly etc.

In summary, we have developed a project on home management using OO Modeling and Design techniques. Through incorporation of inheritance between super and subclasses of objects, we maximize reusability and minimize maintenance cost. The rules that govern the operation of the object classes are encapsulated into each object and lead to intelligent data model. Furthermore, the object classes and relationships which we created in this project can be applied to other enterprise applications.

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